

Rajat Chaple

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Education

UNIVERSITY OF COLORADO, BOULDER, CO | JAN 2021 – DEC 2022 | GPA: 3.97

- Master's in electrical and computer engineering (Major: Embedded Systems Engineering)
- Related coursework:
 - Principles of Embedded software, IOT Embedded Firmware, Embedded system design, Low Power Embedded Design, Real Time Embedded Systems, Practical PCB Design

MIT COLLEGE OF ENGINEERING, PUNE, MAHARASHTRA | AUG 2011 – MAY 2015 | GPA: 3.31

- Bachelor of Engineering in Electronics and Telecommunication
 - Related coursework: Embedded systems, Microcontrollers and Applications

Skills

PROGRAMMING: Proficient in C, Bare metal, MATLAB, Python, Kernel Device drivers, Buildroot, DMA, Assembly, RTOS

PROTOCOLS: CAN J1939, UART, SPI, I2C, NMEA-0183

HARDWARE SKILLS: Schematic design, PCB layout design using Autodesk Eagle and Altium Designer

MICROCONTROLLERS/KITS: FRDM KL25Z, AT89C51, Arm Cortex M4 based TM4C123GH6PM, MSP432, Raspberry Pi

- Proficient in finding efficient solutions and doing intense debugging of hardware, firmware, and software

Work Experience

LUCID | EMBEDDED SOFTWARE ENGINEER (BATTERY SOFTWARE) | SEPT 2023 – PRESENT

- Responsible for designing and developing safety critical battery software in C and MATLAB-Simulink.

CANOO | EMBEDDED SOFTWARE ENGINEER (BODY SYSTEMS) | FEB 2023 – SEPT 2023

- Contributed team in implementing body control features including lighting, Door, and seat control.
- Architected and developed state machine for mirror controls.

INTERNSHIP AT ANALOG DEVICES INC. | MAY 2022 – AUG 2022

- Implemented embedded software on STM32 for closed loop power transfer unit and automation scripts in python.
- Tools used: Jama, Jira, Confluence, Git

JOHN DEERE INDIA PVT LTD | EMBEDDED SOFTWARE ENGINEER | JULY 2015 – DEC 2020

- Project: Smart Spraying System
 - Implemented live spraying tracker with the help of GNSS to assist customers to monitor their spraying operations in Vineyards/orchards. MATLAB generated C code was integrated into Android App. This reduced Proof-of-concept development time from 4.5 months (average) to 2 months.
- Project: Dashboard Digitization and Telematics
 - Collaborated with cross-functional teams to develop a low-cost, feature-rich product to help farmers/ contractors receive alerts, status, and activities of their vehicles along with tracing and geofencing using an android app. JDLink: <https://www.deere.co.in/en/tractors/>
- Patent approved: [US11363753B2 - Mower implement guidance system - Google Patents](#)

Academic Projects

- CUBIT – solar panel and USB rechargeable, multi-mode smart measuring tape ([Link](#))
 - For this battery-operated device, power supply was designed. microcontroller+ BLE, LCD and sensors including magnetic encoder were interfaced using I2C, ABI, SPI and UART. Low energy mode software was written to enhance battery life. This device was configured to send measurements to android application over BLE.
- Remotely programming AT89C51 ([Link](#))
 - Developed a module using ESP32 and MSP432 which can be connected to 8051 u-controller to program it wirelessly.